



## NP691

### TECHNICAL DATA BULLETIN

GRADE: NP691      NEMA GRADE: FR-1, type      U. L. LISTED: Y

**DESCRIPTION:** Flame resistant, room temperature punching grade. NP691 is very similar to NP612 in electrical properties and mechanical strength, with improved moisture resistance.

**THICKNESS TESTED:** 0.062", 0.125" & 0.500".

#### TYPICAL PROPERTIES

GENERAL PHYSICAL PROPERTIES	UNITS	VALUE
Specific Gravity	-	1.33
Rockwell Hardness (.062")	M Scale	85
Moisture Absorption (.062")	%	1.20
Flexural Strength (.062") LW	psi	16,000
CW		13,000
Flexural Modulus (.062" LW	kpsi	1,000
CW		900
Tensile Strength (.125") LW	psi	12,000
CW		9,000
Izod Impact Strength E-48/50 (.500") LW	ft-lb/in	.90
CW	notched	.80
Compressive Strength flatwise (.500")	psi	25,000
Bond Strength (.500")	lb	1,200
Shear Strength (perpendicular) (.062")	psi	12,000



THERMAL & ELECTRICAL PROPERTIES	UNITS	VALUE
Maximum Operating Temperature	°C	105 <sup>1</sup>
Coefficient of Thermal Expansion X-axis (.062") Y-axis	" / °C x 10 <sup>-6</sup>	16 20
Flammability Rating - U. L. 94	Class	V-0
Breakdown Voltage Condition - A (.062") D-48/50	kV	55 5
Electric Strength Condition - A (.062") D-48/50	V/mil	500 300
Permittivity (.062") Condition - D-24/23	-	5.2
Dissipation Factor (.062") Condition - D-24/23	-	.065
Arc Resistance (.125") D-495	sec	100
Comparative Tracking Index (.125") D3638	-	240

<sup>1</sup> NEMA LI-6: This temperature is a recommendation only, and based upon experience in various applications. The maximum operating temperature is dependent upon the application and should be investigated prior to use.

This data, while believed to be accurate and based on reliable analytical methods, is for informational purposes only. The terms and conditions of the agreement under which it is sold will govern any sales of this product. Data supplied above are "typical values"; not to be considered "specification values".